CLAIMS

We claim:

1. A polish pad comprising:

a base layer; and

an ion exchange layer disposed on the base layer.

2. The polish pad of claim 1, wherein the ion exchange layer comprises ion exchange resin beads

3. The polish pad of claim 1, wherein the ion exchange layer comprises ground ion exchange resin beads.

4. The polish pad of claim 2, wherein the ion exchange beads are pressed into the ion exchange layer.

5. The polish pad of claim 3, wherein the ground ion exchange beads are pressed into the ion exchange layer.

6. The polish pad of claim 1, further comprising a base support layer.

7. The polish pad of claim 1, wherein the ion exchange layer is patterned.

8. The polish pad of claim 6, wherein the base support layer is patterned.

9. The polish pad of claim 8, wherein the base support layer and the ion exchange layer is patterned.

10. The polish pad of claim 1, wherein the ion exchange layer binds cations.

11. The polish pad of claim 10, wherein the ion exchange layer binds copper cations.

12. An ion exchange polish pad comprising:

a base layer; and

a resin layer having ion exchange material embedded therein.

13. The ion exchange polish pad of claim 12, wherein the ion exchange material is ion exchange resin beads.

14. The ion exchange polish pad of claim 12, wherein the ion exchange material is ion exchange resin powder.

15. The ion exchange polish pad of claim 12, wherein the resin layer is patterned.

16. The ion exchange polish pad of claim 12, wherein the base layer is patterned.

17. The ion exchange polish pad of claim 12, wherein the polishing layer and the support layer is patterned.

18. A method of fabricating a polishing pad comprising:

selecting a base material;

applying a resin over the base material;

pressing an ion exchange material into the resin;

removing excess ion exchange material; and

planing a top surface of the ion exchange polish pad.

19. The method of claim 18, wherein the ion exchange resin is ion exchange resin beads.

20. The method of claim 18, wherein the ion exchange resin is ground ion exchange resin beads.

21. A method of fabricating an ion exchange polish pad comprising:

selecting a support layer;

coating the support layer with a first resin layer;

partially curing the first resin layer;

fragmenting ion exchange beads to a powder;

mixing the fragmented ion exchange beads with a second resin to obtain a resin mixture;

coating the first resin layer with a first resin mixture layer; and

curing the ion exchange polish pad.

22. The method of fabricating an ion exchange polish pad as in claim 21, further comprising patterning the first resin mixture layer.

23. The method of fabricating an ion exchange polish pad as in claim 21, further comprising patterning the first resin layer before coating with the first resin mixture.

24. The method of fabricating an ion exchange polish pad as in claim 21, further comprising:

patterning the first resin mixture layer; and

coating the first resin mixture layer with a second resin mixture layer.

25. A polishing apparatus comprising:

a polishing platform;

an ion exchange polish pad operatively coupled to the polishing platform; and

a polishing head coupled to a semiconductor substrate, wherein the polishing head positions the semiconductor substrate such that the semiconductor substrate contacts the ion exchange polish pad.

26. The apparatus of claim 25, wherein the polishing apparatus further comprises a chemical slurry applicator.

27. The apparatus of claim 25, wherein the ion exchange polish pad is a belt.

28. A method comprising:

combining an ion exchange material and at least one resin component;

polymerizing the resin components with the ion exchange material; and

forming an ion exchange polish pad or belt comprising the resin and the ion exchange material.

29. The method of claim 28, wherein the ion exchange material is an ion exchange bead.

30. The method of claim 28, wherein the ion exchange material is a functional group.

31. The method of claim 30, wherein the functional group is coupled to polymer component.

32. The method of claim 31, wherein the polymer component is a pre-polymer.